



International Microorganisms Day Celebrations at the Department of Biosciences, SSSIHL, Prasanthi Nilayam – A Report

The Department of Biosciences at Sri Sathya Sai Institute of Higher Learning (SSSIHL), in collaboration with the Institution's Innovation Council (IIC), organized a successful two-day celebration of International Microorganisms Day on the 16th and 17th of September, 2024. The event featured an immersive workshop on microbial handling techniques, the prestigious Dr. K. Gopinatha Rao Memorial Lecture, and an engaging exhibition titled “Into the Microbial World.” These activities provided participants with hands-on experience, expert insights, and captivating demonstrations, highlighting the vital role microbes play in human health and the environment.

Day 1: Workshop on Microbial Handling Techniques and Biosafety

The celebrations commenced with a full-day hands-on workshop on microbial handling techniques and biosafety on the 16th of September 2024. This workshop, held at the AMR Laboratory, Biosciences Department, focused on key microbiological methods such as preparation of solid and liquid media, bacterial streaking, plating, sterilization techniques, and cryo-storage. Participants also learned about procedures like Gram staining and antibiotic susceptibility testing (disk diffusion, E-test, and broth microdilution).

One of the unique highlights of the workshop was a special session on microbial art, where participants creatively designed microbial growth patterns by using bacterial cultures. The workshop saw enthusiastic participation from 65 students (37 girls and 28 boys), from Sri Sathya Sai Higher Secondary School, Smt. Eswaramma High School, and Sri Sathya Sai Institute of Higher Medical Sciences, Whitefield. The hands-on sessions were designed to infuse scientific calibre, technical skills, and practical knowledge in the school students, emphasizing both safety and precision in microbiological research.

Day 2: International Microorganisms Day Celebrations

Session 1: Memorial Lecture and Guest Talk

The second day began with an auspicious inaugural ceremony, featuring an invocatory Vedam and lighting of the lamp by the dignitaries. Prof. S. Venkatesh, Head of the Department of Biosciences, delivered the inaugural address, stressing the significance of microbes in ecosystems, human health, and the ongoing fight against infectious diseases.

A major highlight of the celebrations was the Dr. K Gopinatha Rao Memorial Lecture, delivered by the eminent microbiologist Prof. V. Nagaraja on the topic “*Challenges in Tackling the Resurgent Drug-Resistant Tuberculosis.*” Prof. Nagaraja shed light on the alarming global rise of drug-resistant tuberculosis and the complexities faced by healthcare professionals and researchers in combating this resurgent threat. His lecture explored the intricacies of



microbial resistance, genetic mutations in pathogens, and the urgent need for novel treatments.

Following this, the Guest of Honour, Prof. D. Narasimha Rao, delivered an insightful talk titled *“Exploring the Invisible Universe in Us: The Human Microbiome.”* Prof. Rao discussed the fascinating and often underestimated role of the human microbiome in maintaining overall health and preventing diseases. His talk illuminated how trillions of microbes living in and on the human body contribute to metabolic processes, immunity, and mental health, sparking keen interest among the audience.

The session concluded with a vote of thanks, acknowledging all the people involved in making the program a success, and the collaborative effort between the Department of Biosciences and the Institution's Innovation Council.

Session 2: Exhibition – “Into the Microbial World”

The two-day event concluded with a vibrant microbiology-themed exhibition titled *“Into the Microbial World,”* held in the corridors of the Department of Biosciences. The exhibition featured over 40 posters from the Anantapur and Prasanthi Nilayam students, showcasing research and ideas from first-year undergraduates to Ph.D. scholars. Topics ranged from diversity in the microbial world, microbial physiology, and useful and pathogenic microbes, to the role of microbes in environmental sustainability.

In addition to the poster presentations, live demonstrations of microbial cultures such as bacteria and fungi, along with the DREAM assay, and Microbial Fuel Cells (MFCs) captured the attention of the attendees. Magnified 3D models of microorganisms were displayed, and microscopes were set up for students to observe live specimens of microbes. The exhibition served as an interactive learning platform, allowing students from other departments, as well as visitors from Sri Sathya Sai Primary School, Smt. Eswaramma High School, and Sri Sathya Sai Higher Secondary School, to engage with the fascinating world of microorganisms.

Notable visitors, including the Dean of Science, along with guest speakers Prof. V. Nagaraja and Prof. D. N. Rao, toured the exhibition and interacted with the student participants. They praised the creativity and scientific curiosity demonstrated by the students and encouraged further research in the field of microbiology.

The International Microorganisms Day celebration at SSSIHL was an outstanding success, offering a perfect blend of theoretical knowledge, practical learning, and innovative thinking. The workshop, memorial lecture, and exhibition collectively provided a holistic understanding of the microbial world, its challenges, and its endless potential. This event, jointly organized by the Department of Biosciences and the Institution's Innovation Council, enriched the students' academic experience and fostered a deeper appreciation for microbiological research. The two-day program not only shed light on the critical role of microbes but also inspired the next generation of researchers to delve deeper into the mysteries of the microbial world.